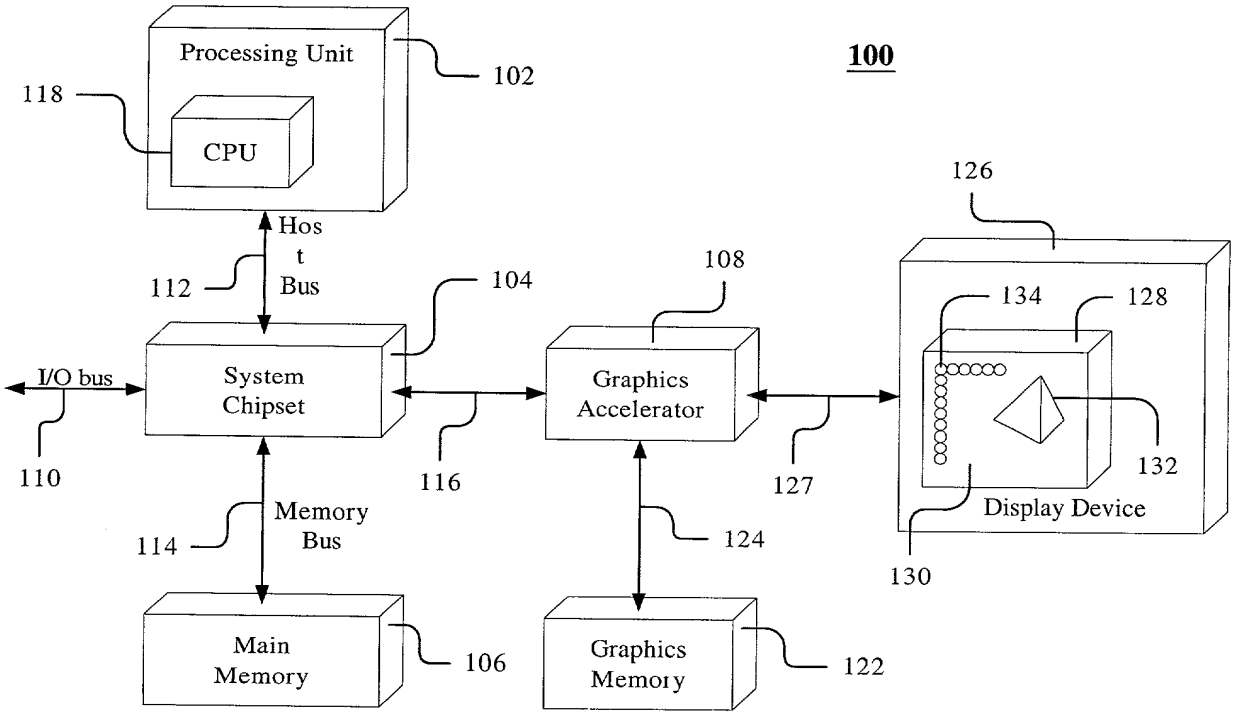

Figure 1

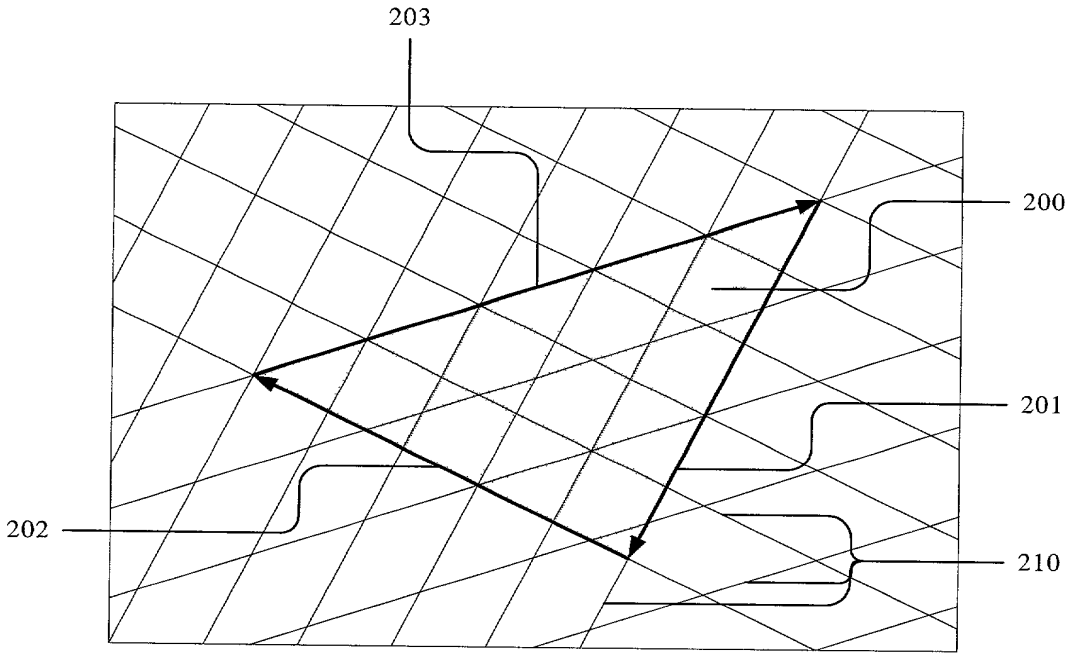

Figure 2
(Prior Art)

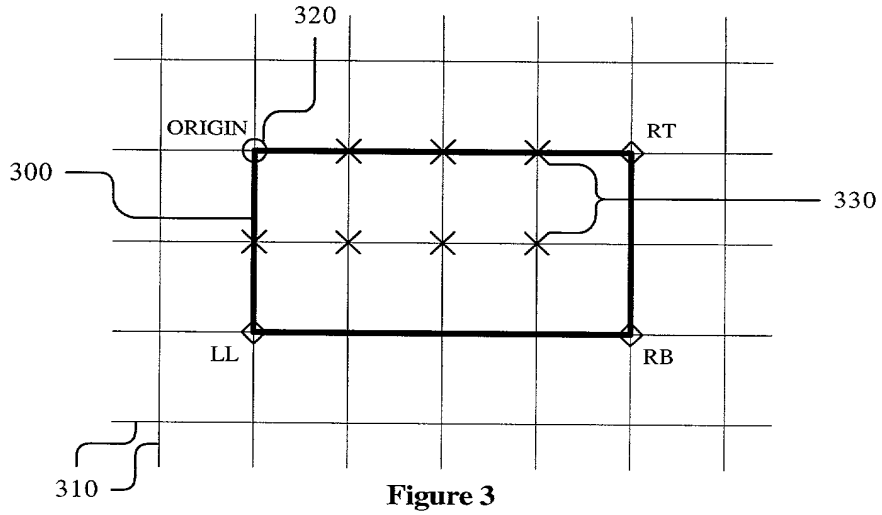

Figure 3
(Prior Art)

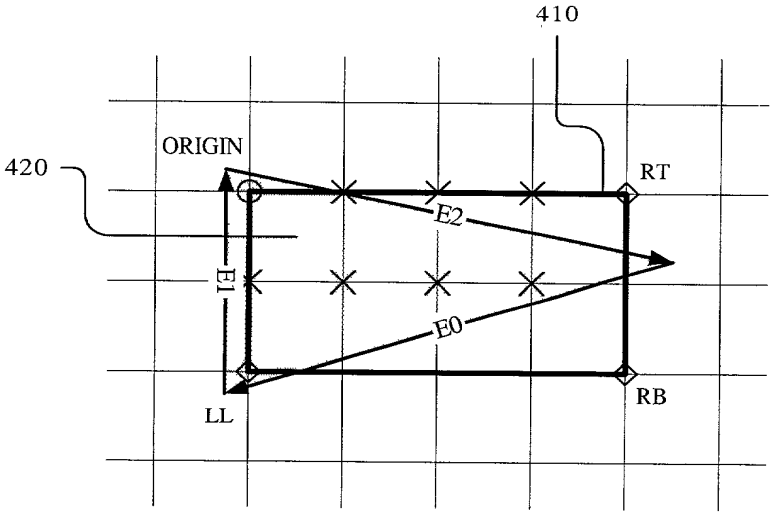

Figure 4
(Prior Art)

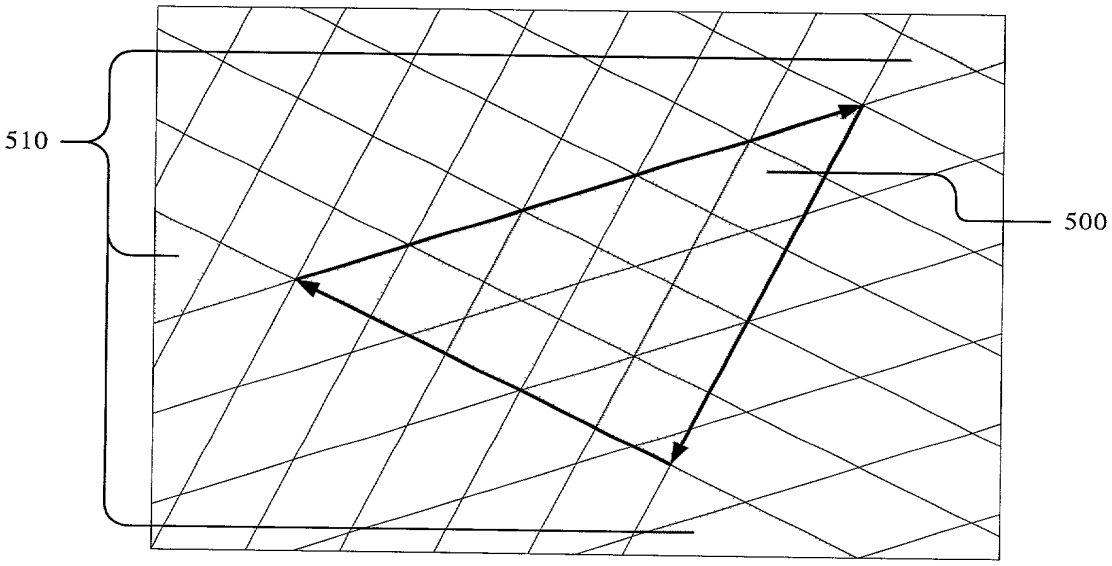

Figure 5
(Prior Art)

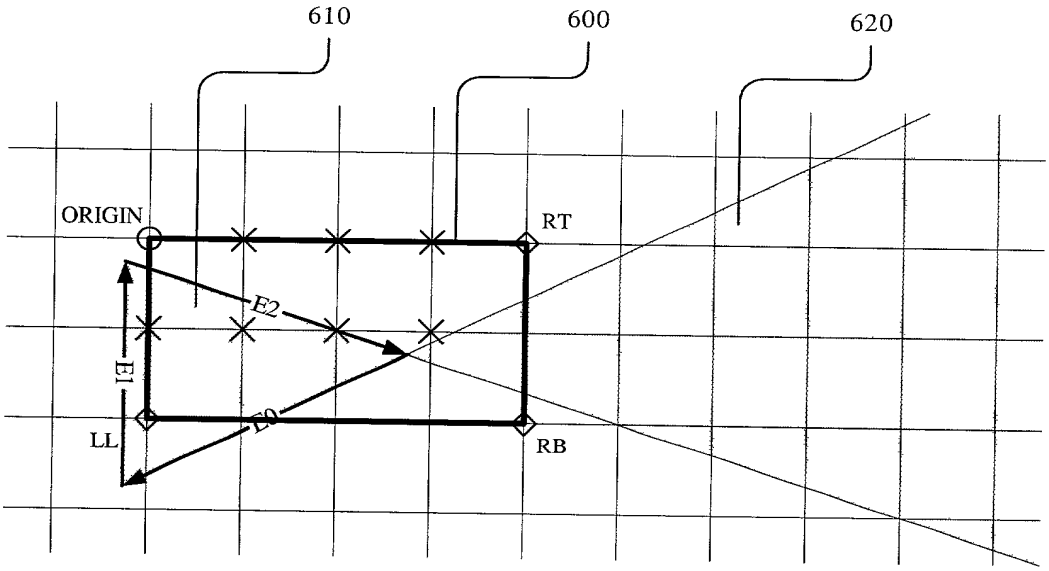

Figure 6
(Prior Art)

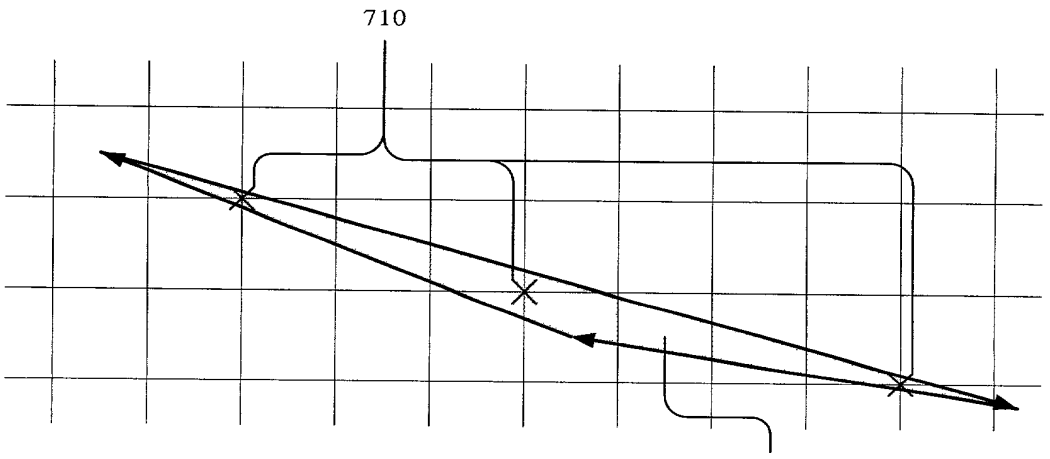

Figure 7

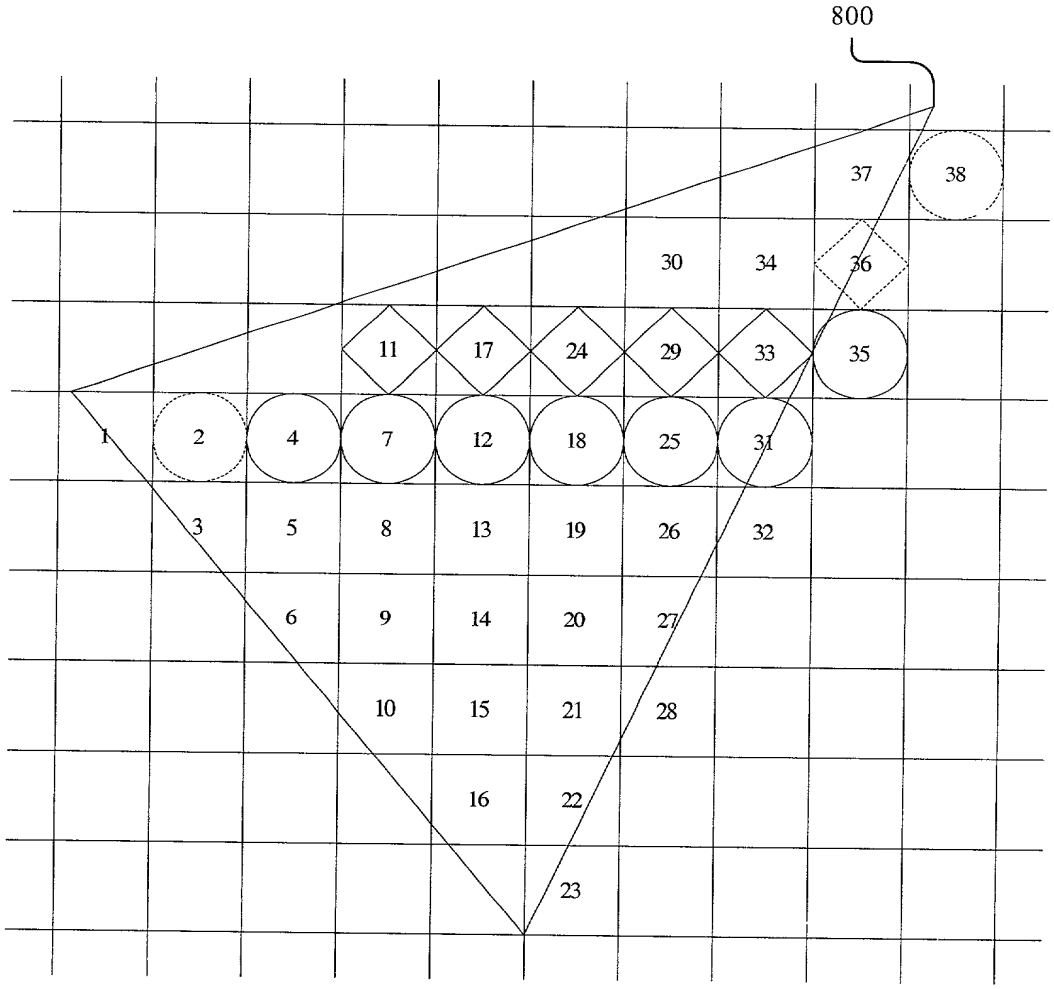

Figure 8

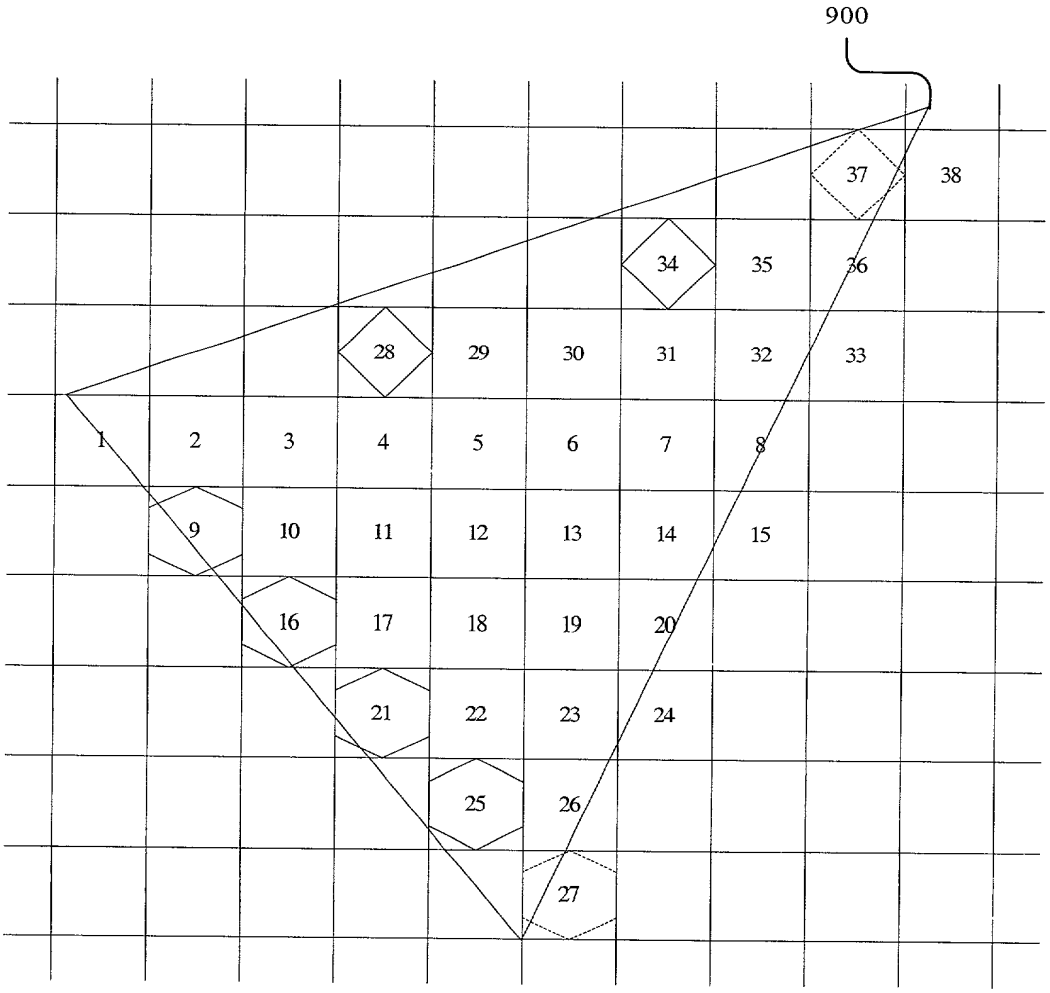
900
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Figure 9

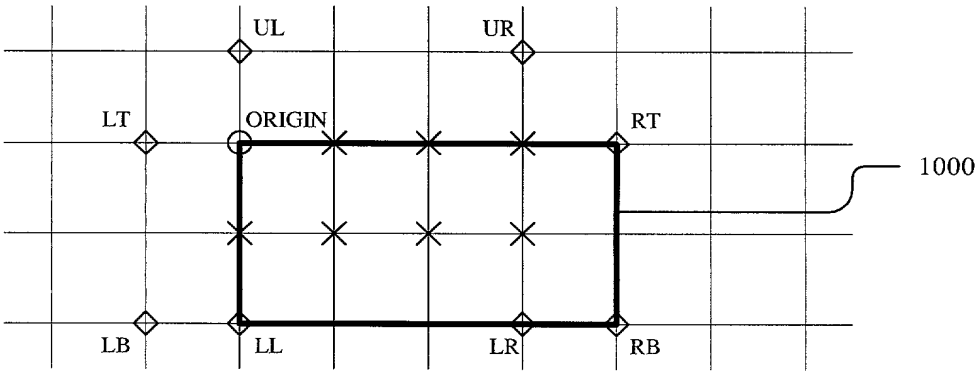

Figure 10

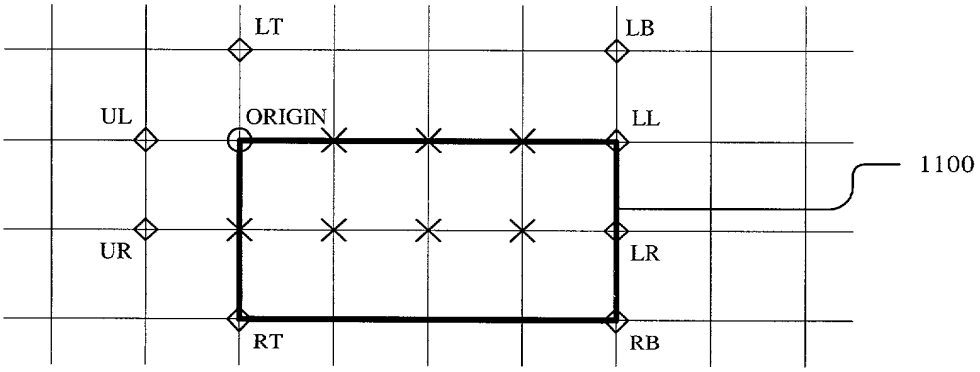

Figure 11

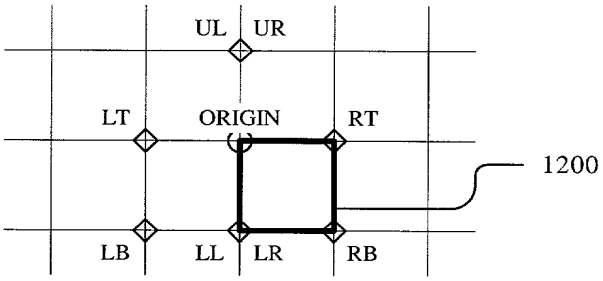

Figure 12

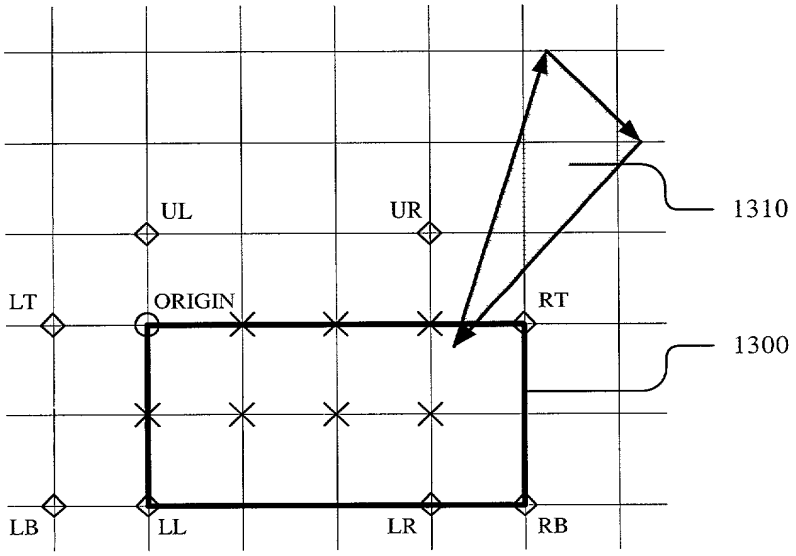

Figure 13

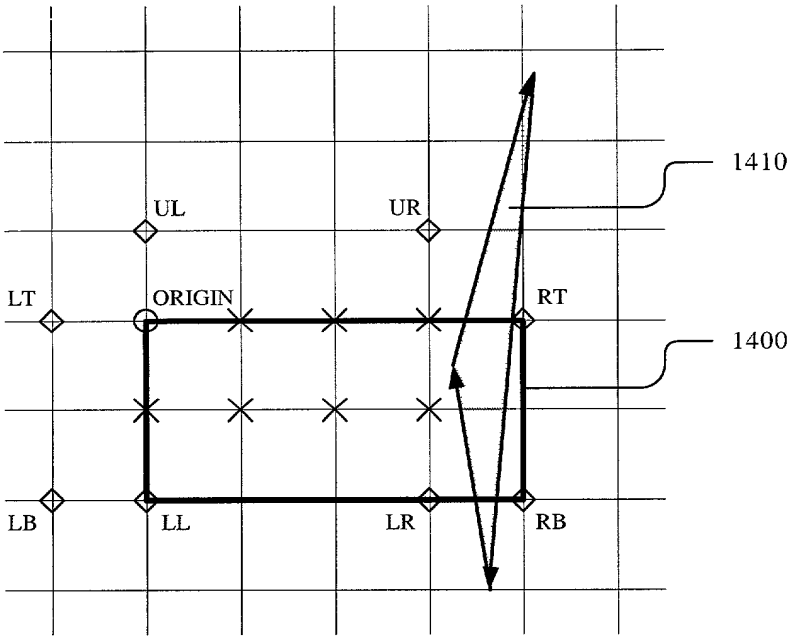

Figure 14

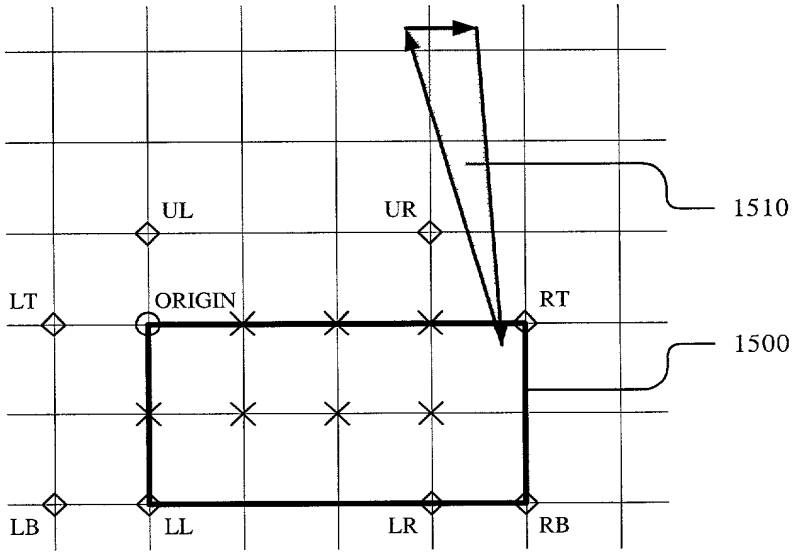

Figure 15

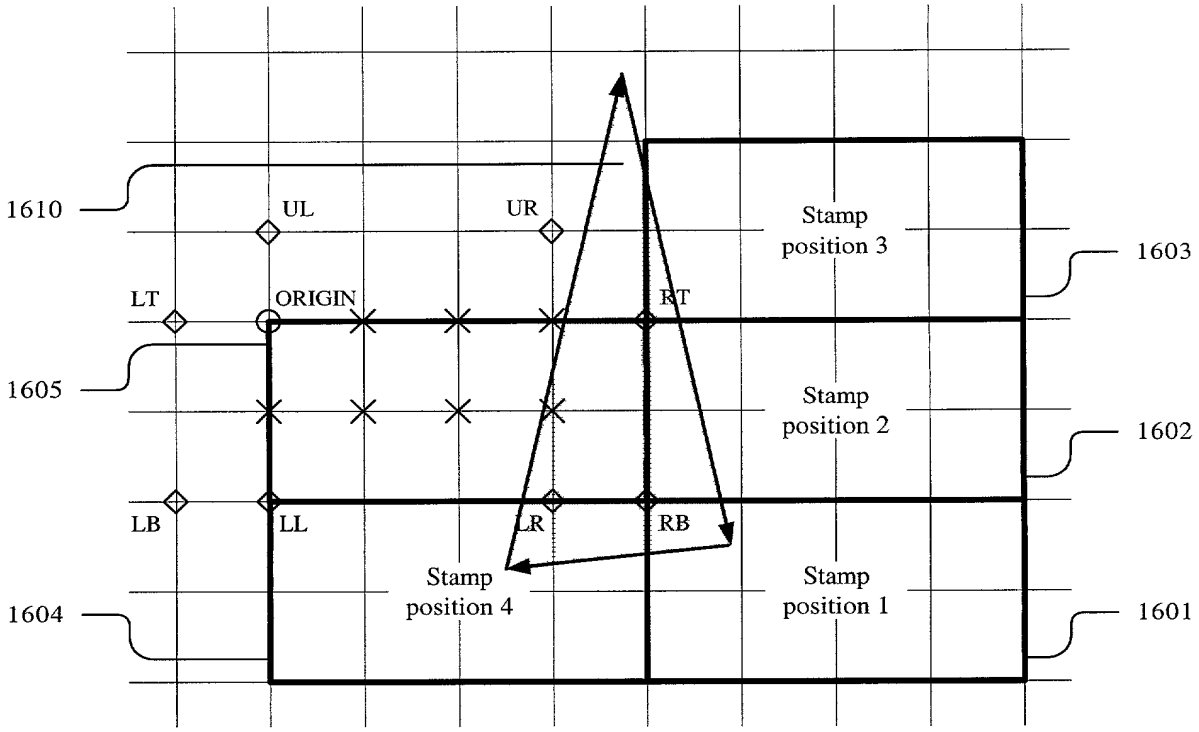

Figure 16

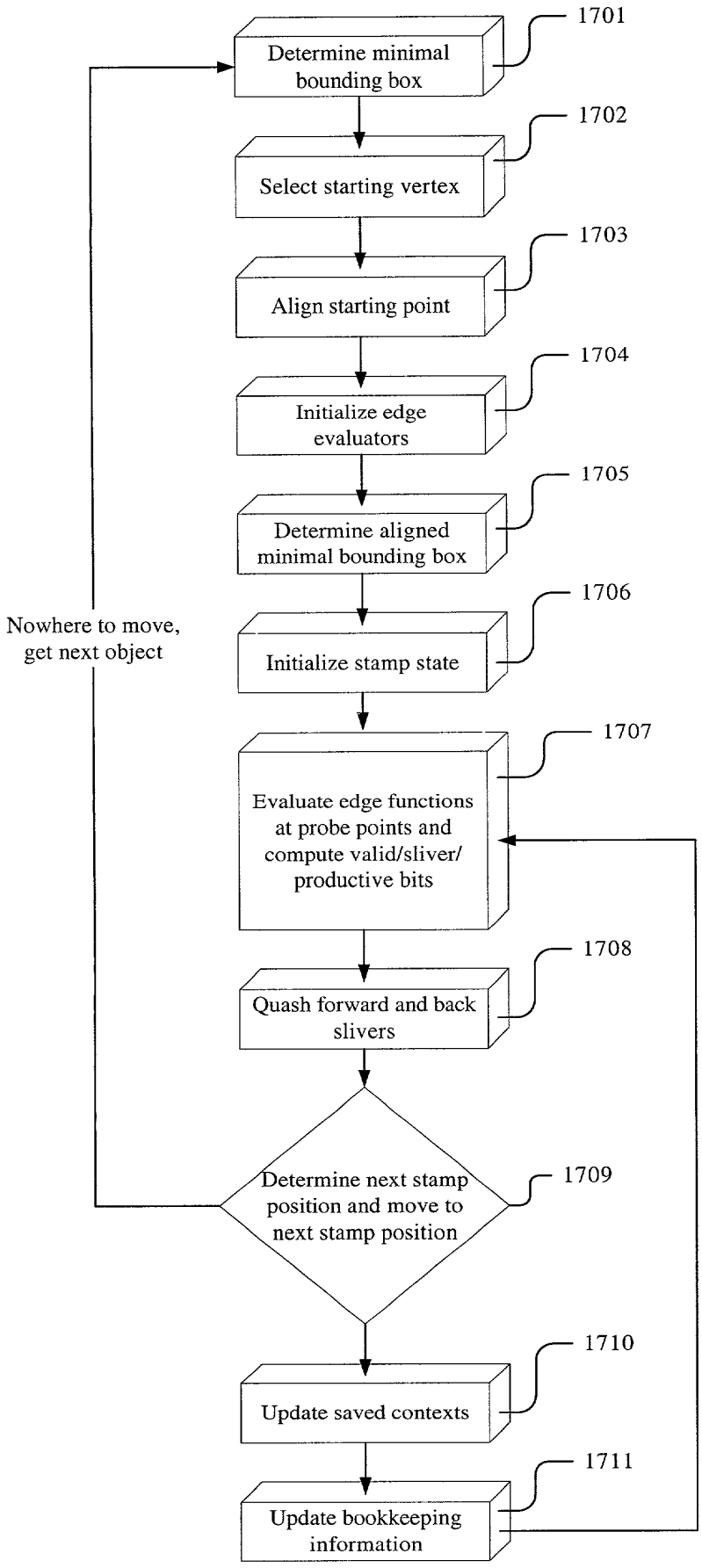
1701
Determine minimal bounding box
1702
Select starting vertex
1703
Align starting point
1704
Initialize edge evaluators
1705
Determine aligned minimal bounding box
1706
Initialize stamp state
1707
Evaluate edge functions at probe points and compute valid/sliver/ productive bits
1708
Quash forward and back slivers
1709
Determine next stamp position and move to next stamp position
Nowhere to move, get next object
1710
Update saved contexts
1711
Update bookkeeping information

Figure 17A

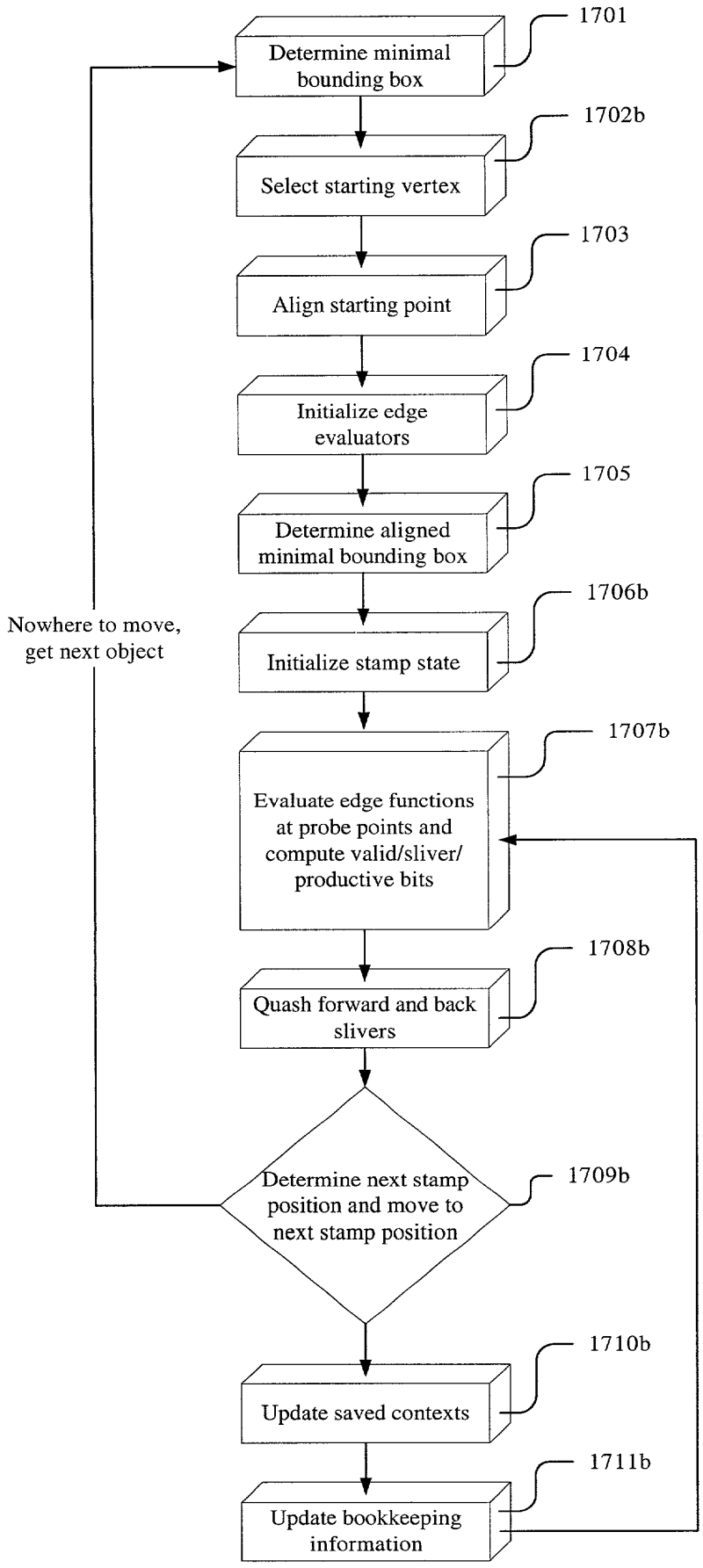
Determine minimal bounding box
1701
Select starting vertex
1702b
Align starting point
1703
Initialize edge evaluators
1704
Determine aligned minimal bounding box
1705
Initialize stamp state
1706b
Evaluate edge functions at probe points and compute valid/sliver/ productive bits
1707b
Quash forward and back slivers
1708b
Determine next stamp position and move to next stamp position
1709b
Nowhere to move, get next object
Update saved contexts
1710b
Update bookkeeping information
1711b

Figure 17B

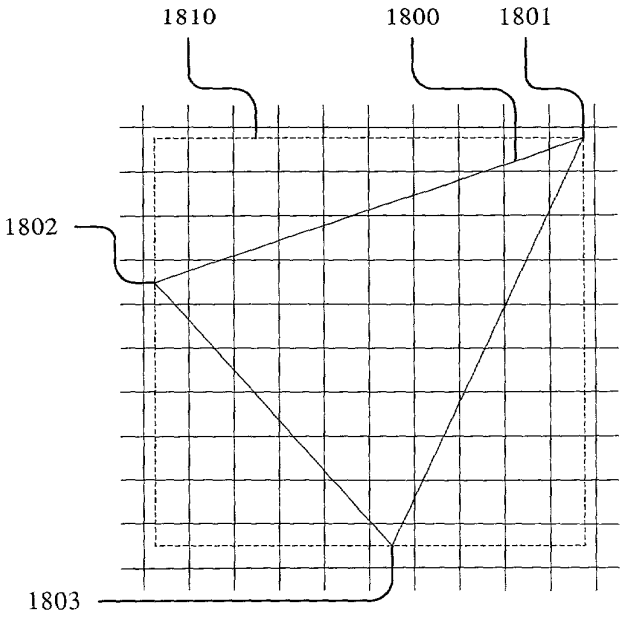

Figure 18

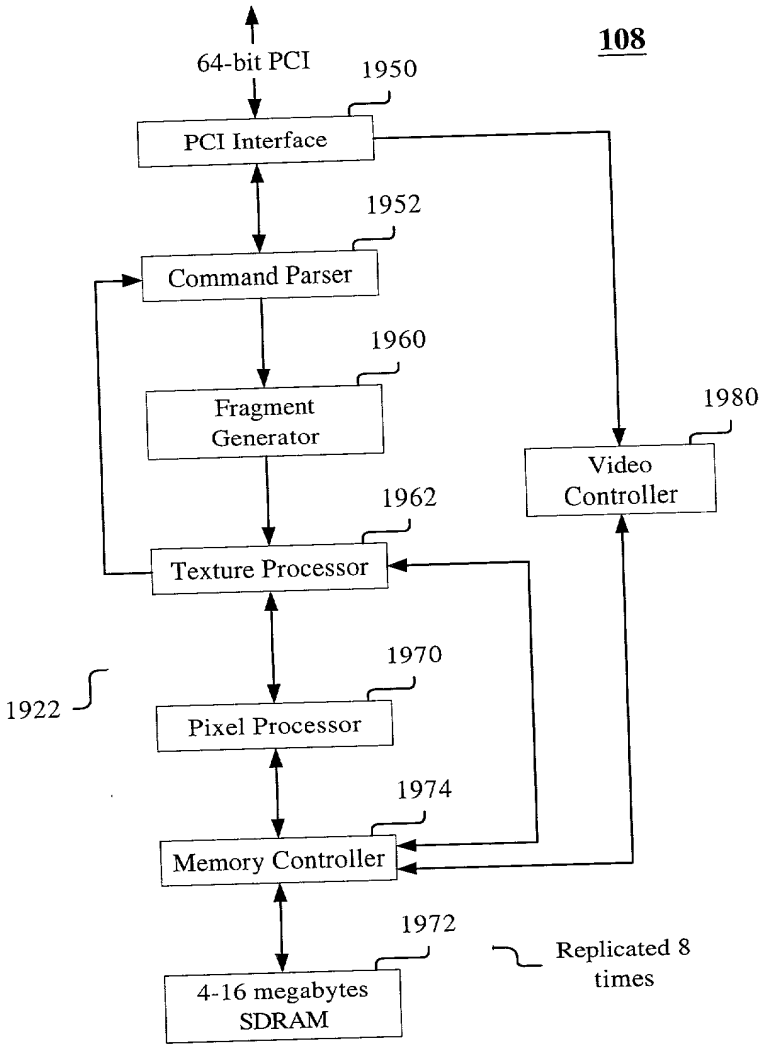
108
64-bit PCI
1950
PCI Interface
1952
Command Parser
1960
Fragment Generator
1980
Video Controller
1962
Texture Processor
1922
1970
Pixel Processor
1974
Memory Controller
1972
4-16 megabytes SDRAM
Replicated 8 times

Figure 19

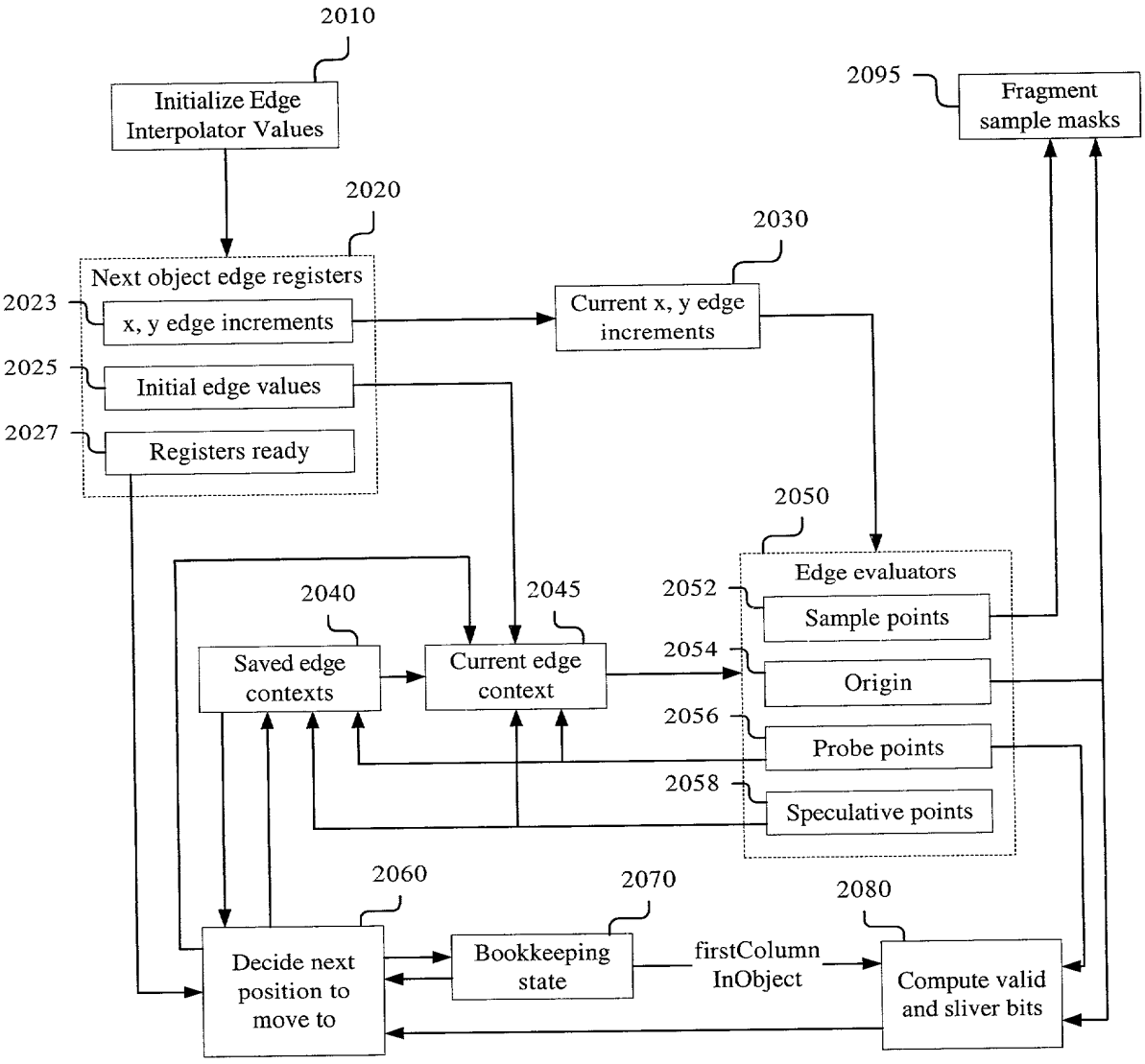
2010
Initialize Edge Interpolator Values
2095
Fragment sample masks
2020
2030
Next object edge registers
2023
x, y edge increments
Current x, y edge increments
2025
Initial edge values
2027
Registers ready
2050
Edge evaluators
2040
2045
2052
Sample points
Saved edge contexts
Current edge context
2054
Origin
2056
Probe points
2058
Speculative points
2060
2070
2080
Decide next position to move to
Bookkeeping state
firstColumn InObject
Compute valid and sliver bits

Figure 20

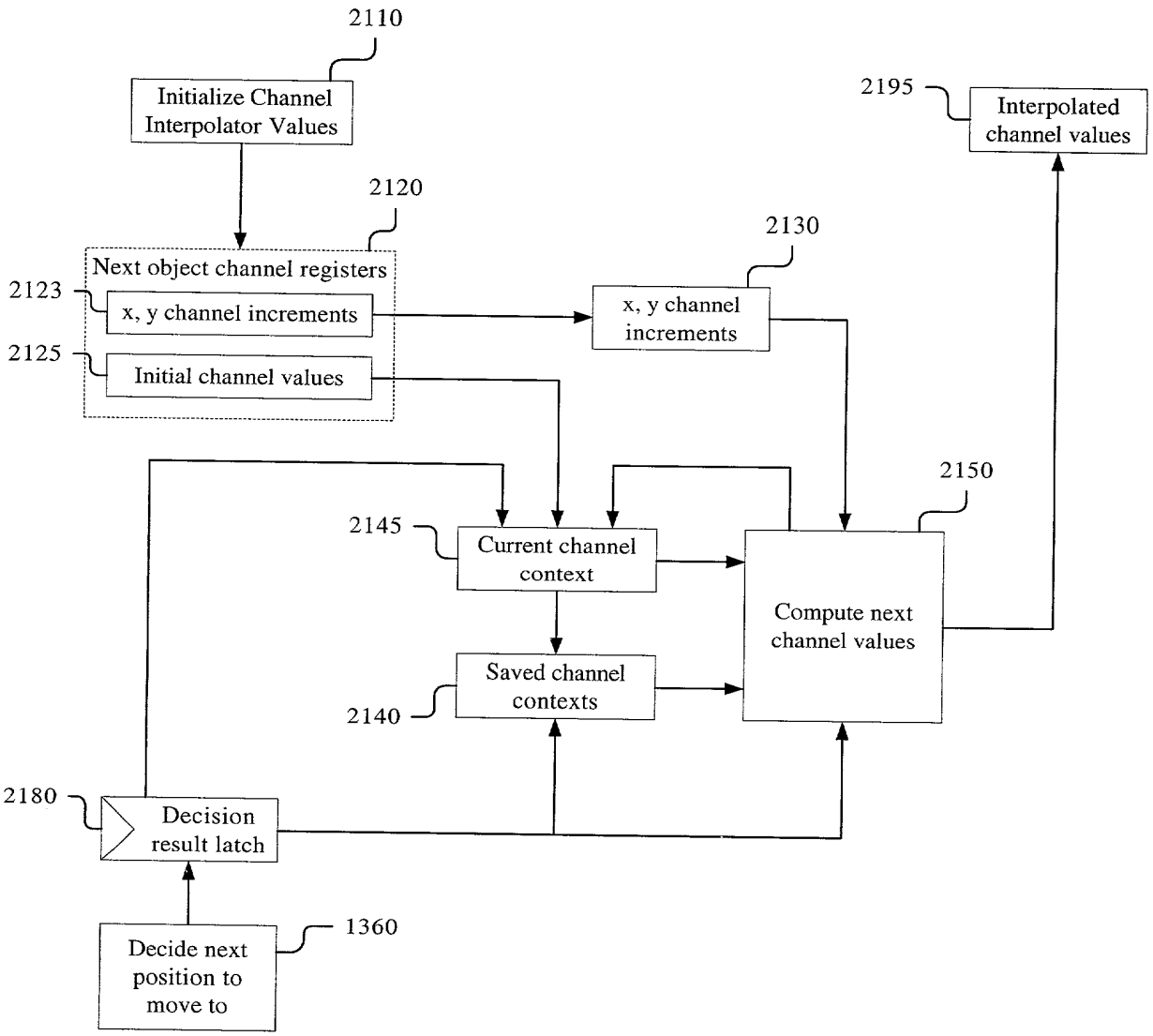
2110
Initialize Channel Interpolator Values
2195
Interpolated channel values
2120
2130
Next object channel registers
2123
x, y channel increments
x, y channel increments
2125
Initial channel values
2150
2145
Current channel context
Compute next channel values
Saved channel contexts
2140
2180
Decision result latch
1360
Decide next position to move to

Figure 21

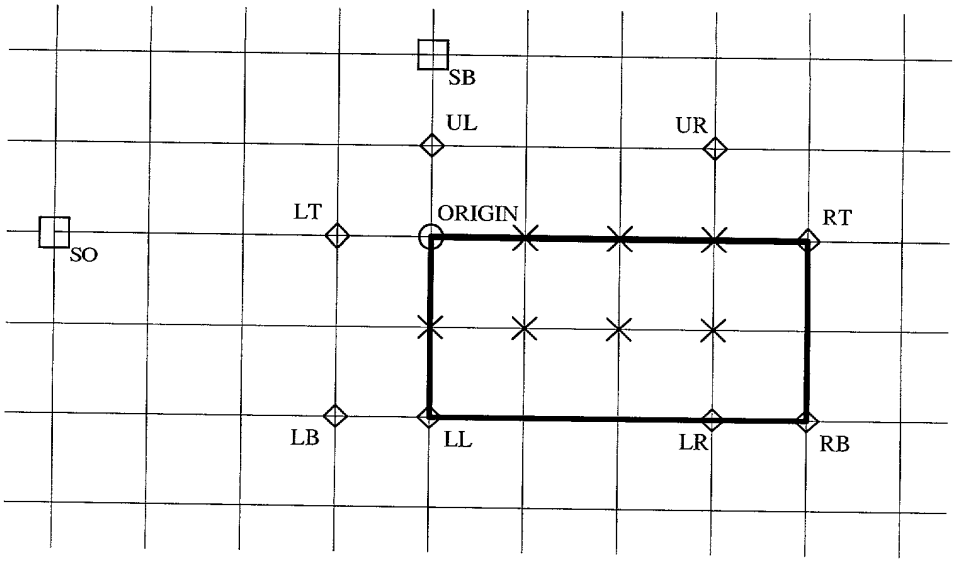

Figure 22

Edge context
Edge 0 function value
Edge 1 function value
Edge 2 function value
Edge 3 function value
Valid position bit
Sliver position bit

Figure 23

Channel context
Red value
Green value
Blue value
Alpha tranparency value
Z depth value
Fog value
Texture coordinate u value
Texture coordinate v value
Texture coordinate w3 value
Texture coordinate q value
Texture derivative du/dx value
Texture derivative dv/dx value
Texture derivative du/dy value
Texture derivative dv/dy value
X coordinate value
Y coordinate value

Figure 24

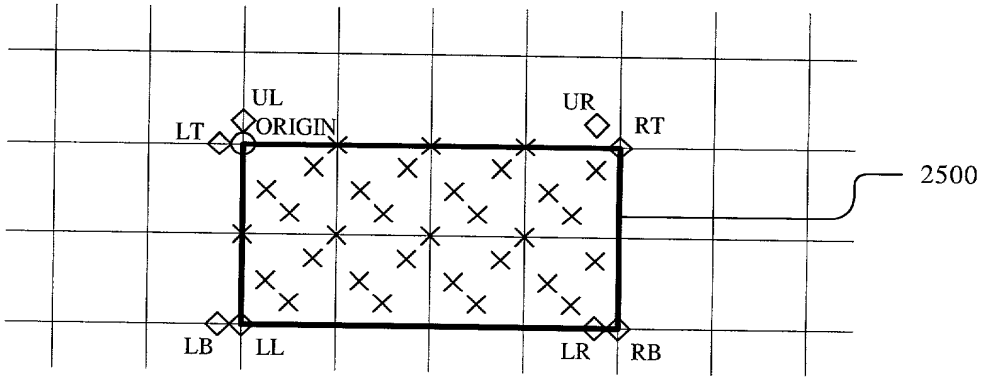

Figure 25

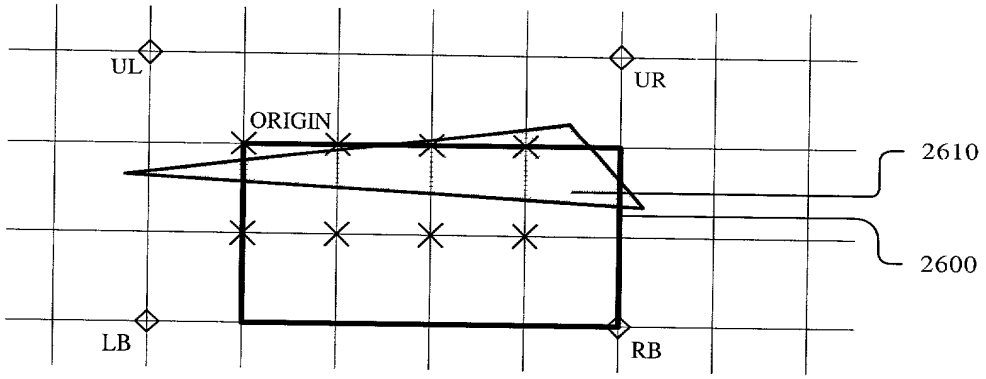

Figure 26

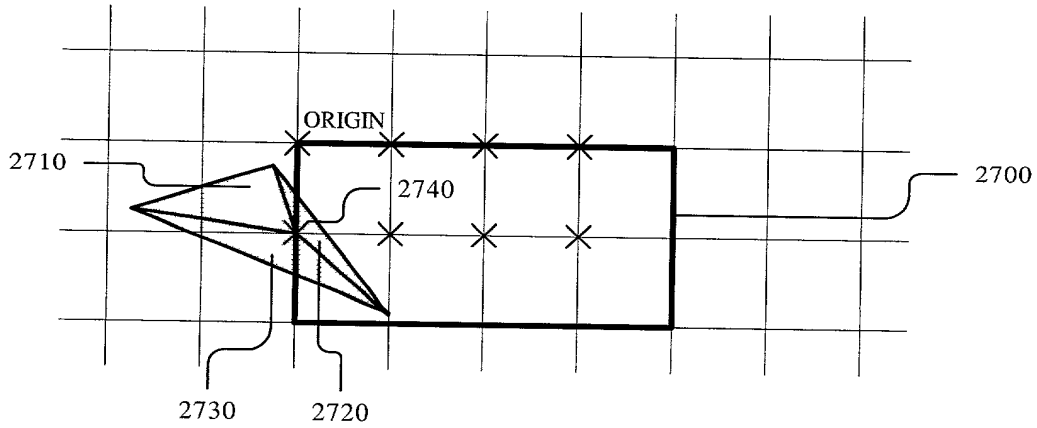

Figure 27

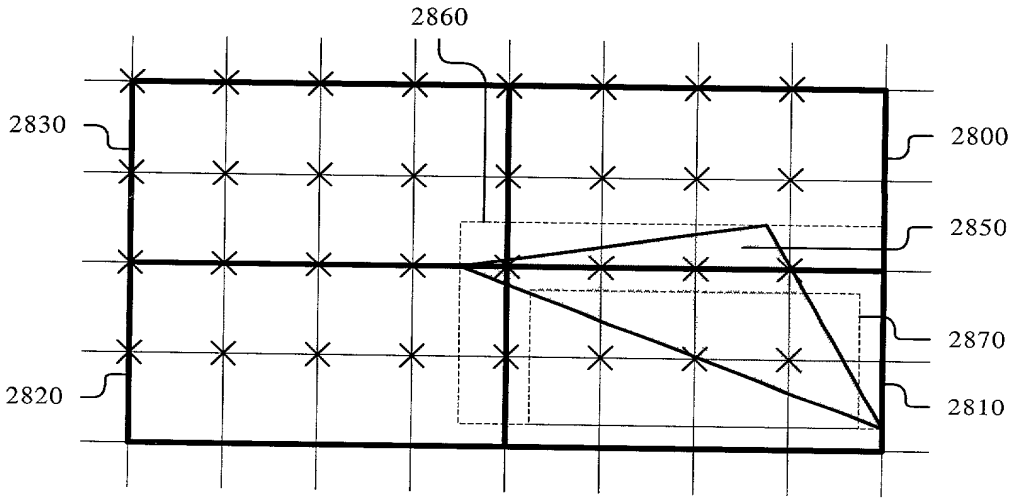

Figure 28